Claim 1

A rotary type energetic machine having an exterior housing with a cylindrical cavity in which two complementary compressive parts are set up dynamically, each having a specific number of sides, being a cylindrical part and a paddle part, these parts realizing compression chambers in complicity, these parts forming the material figure of the machine, the cylindrical part being set up in a rotary manner inside the cylindrical cavity, the cylindrical part having an annular shape with a circular exterior profile and an interior opening chosen in function of the form of the paddle part, the paddle part being set up in the interior opening of the cylindrical part, these complementary compressive parts being connected between themselves and synchronized by a set of mechanical inductions, one o the compressive parts being connected directly or indirectly to an exit power axis, this machine being characterized by the fact that each of the points of the paddle part realizes a figure, said Displacement Figure of the paddle part, of a circular shape, the centers of these circular figures being located in periphery and at equal distance from the center of the cylindrical cavity, the paddle part effecting a circular displacement all while conserving a same orientation for it's whole course, thus performing a rotational translation movement, the cylindrical part turning around the paddle part and thus describing a rotary movement, synchronized with that of the paddle part, this realizing a number of paddle compressions per cycle equal to the number of paddle sides, the group of the paddle positions during the compressions forming the Geometric Figure, these compressions being realized successively, this forming the Realization Sequence Figure of the machine's Geometric Figure, the support of the paddle part being assured by a mechanic in which the gear ratios which lead the translational orientation movement realizes a retro rotation of the paddle part on the crank pin of the crankshaft or eccentric supporting it in a ratio of one to one to that of the rotation of the crankshaft or eccentric, or crankshaft ensemble, and the support of the cylindrical part being assured by a mechanic which induces a rotary movement, in which the dynamic is conform with the realization sequence of the Geometric Form, of the Material Form, and of the Realization Sequence of the Geometric Form.

Claim 2

A rotary type energetic machine having an exterior housing with a cylindrical cavity in which are dynamically set up two complementary compressive parts, being a cylindrical part and a paddle part, these parts realizing compression chambers in complicity, the cylindrical part being set up in a rotary manner in the cylindrical cavity, the cylindrical part having an annular shape with a circular exterior profile and an interior opening chosen in function of the shape of the paddle part, the paddle part being set up in the interior opening of the cylindrical part, these parts each having a specific number of sides established according to rules of the art of rotary machines, these parts forming the machine's Material Figure, each of these complementary compressive parts being guided by a mechanical induction, these inductions being synchronized by the sharing of a common element, one of the mechanical inductions being connected directly or indirectly to an exit power axis, this machine being characterized by the fact that the set of maximal

compression locations for a complete machine cycle realizes a geometric figure said Geometric Figure of the machine, all the points of the paddle part realize a same figure defined by N number of successively realized lobes, N being equal to the number of sides of the Geometric Figure, said Displacement Figure, the realization of the totality of the sides of the Geometric Figure being realized by alternating sides, this forming the alternative Realization Sequence of the Geometric Figure, the length of the radius of the eccentric of the paddle part being defined in function of the Material Forms of the machine, and the orientationnel control mechanic of the paddle part being defined according to ratios established according to the relation of the paddle part and the Realization Sequence of the Geometric Figure, the cylindrical part turning around the paddle part thus describing a rotary movement in which the dynamic is conform with the realization sequence of the Geometric Form.

Claim 3

A machine as described in 2 in which the figures realized by the Displacement Figure, by the Geometric Figure and by the Geometric Figure Sequence are similar or identical, this figure realizing a number of sides equal to the number of cylinder sides of the opposite rotary type as the machine's Material Figure's cylinder, the center of this geometric figure coinciding with the center of the cylindrical cavity.

Claim 4

A machine as described in 2 in which the number of sides of the Geometric Figure is superior or inferior to the number of sides of the opposite cylinder type of that of the Material figure's cylinder, the center of this Geometric Figure coinciding with the center of the cylindrical cavity, the Displacement Figure of the points of the paddle points being different for each point and being done by jumps, and different from the Geometric Figure and the Material Figure, the Realization Sequence of the Geometric Figure being successive, the totality of the Displacement Figure being realized in one turn or more of the machine's eccentric, the gear ratios of the induction mechanic of the paddle part being conform with the realization of the Geometric Figure.

Claim 5

A machine as defined in 3 in which the realization sequence of the maximal extension locations relative to the lobes is alternative, the realization of the complete machine cycle being realized in more than a machine rotation and the mechanical induction allowing the orientationnel control of the paddle part being established according to ratios putting in relation the paddle part and the realization sequence figure of the geometric figure.

Claim 6

A machine as defined in 3 in which each of the points of the paddle part realizes a similar form of geometric figure, but in which the orientation is different, the realization sequence of the compression locations relative to these lobes being successive and the

mechanical induction allowing the orientation control of the paddle part being established according to ratios putting in relation the paddle part and the geometric figure realization.

Claim 7

A machine as defined in 4 , in with the mechanical type of induction stay the same than the type of the Material Figures , ist rations being relative to the Geometrical and Sequential Figures.

Claim 8

A machine according to claim 4 in which the orientationnel guiding mechanic of the compressive parts is of the same type as these but in which the gear ratio, when in respect of the side ratio of the machine compressive parts, is realized in a semi transmittive manner, the support gear of the machine being dynamic.

Claim 9

A machine according to claim 3 in which the paddle part and the eccentric supporting it all turn in opposite direction of that of the cylinder during an exterior observation.

Claim 10

A machine as defined in 1 in which the paddle part is supported by a set of crankshafts set up in a rotary manner inside the machine block, these crankshafts being provided with mechanisms assuring their rotation in the same direction and at the same speed, the crank pin of these crankshafts being inserted in a rotary manner inside one of the piston parts, each of these crankshafts being provided with a gear, each of these gears being coupled to the cylinder induction gear, fixed rigidly to its center.

Claim 11

A machine according to claim 1, 2, or 3, in which the inductions of the compressive parts are exactly synchronized by the sharing of a common element, this element being either:

1) an eccentric,
2) a dynamic support gear of a planetary induction, or
3) a paddle

Claim 12

A machine according to claim 1 in which the support of the paddle part is assured by a central eccentric, the paddle part having an organizational retro rotation speed equal to the rotation speed of the eccentric, this paddle part being coupled to the cylindrical part.

Claim 13

A machine according to claim 4 in which the ratio between the retro rotation speed of the paddle part and the rotation speed of it's eccentric being located between X/Y, where X is the number of paddle sides, and Y being the number of cylinder sides, and X/X, Z being the number of sides of the anti-rotary figure of the cylinder corresponding to the same paddle.

Claim 14

A machine according to claim 1 in which the dynamic of the compressive parts is realized inversely, the cylindrical part realizing the rotary translation movement and the paddle part realizing the rotary movement.

Claim 15

A machine according to claim 1 or 2, in which the number of sides of the paddle part is superior by one to that of the cylindrical part, the relative number of sides thus realizing the machine in its post rotary form.

Claim 16

A machine according to claim 1 or 2 in which the number of sides of the paddle part is inferior by one to that of the cylindrical part, these relative numbers of sides thus realizing the machine in its retro rotary form.

Claim 17

A machine according to claim 1 or 2 in which the paddle part is realized by a multitude of paddle parts, each of these parts simultaneously realizing the geometric form, each of these parts, as well as the cylinder, possessing its own mechanical induction, and each of these parts acting in complicity and in synchronization with the cylindrical part.

Claim 18

A machine according to claim 1, 2, or 3, in which the paddle part is constituted of a group of straight segments, connected non-rigidly between each other by their extremities in such a way as to form a flexible paddle structure, named paddle structure, this structure being activated dynamically inside the cylindrical part, the points of this structure realizing the geometric form

Claim 19

A machine according to claim 19 in which the movement of the points of the paddle structure realizes a rectilinear alternative geometric figure.

Claim 20

A machine according to claim 1, 2, or 3 realized when the support o the paddle part is activated with a mechanical group comprised of a supplementary induction realized in combination with the original induction, changing the rotational or planetary movement of this compressive part to a second degree planetary movement, this realizing a second degree geometric figure and an exacerbated material cylinder figure.

Claim 21

A machine according to claim 2 or 3, which puts into layered composition, many sets o compressive parts, the cylindrical part of one of these sets being able to serve, by it's exterior surface, as a paddle part to the exterior compressive part set, and by it's interior surface, as a cylindrical part to the interior compressive parts, the interior paddle part realizing a geometric figure.

Claim 22

A machine according to claim 1 or 3, in which the compressive parts and their respective mechanical parts have opposite direction dynamics when observed from the exterior.

Claim 23

A machine as defined in 1, 2, or 3, in which the movement of one of the compressive parts is irregular, alternatively realizing accelerations and decelerations which can, when the compressive part possesses a planetary movement, add an oscillatory character to it, these accelerative décélérative movements being able to be realized by various mechanical means, such as by means of polycammed gears, these accelerations/decelerations modifying the compressive parts, this modifying, when applied to the cylinder, it's dynamic, and when applied to the compressive part, the original forms of the geometric figure.

Claim 24

A machine according to claim 1, 2, or 3, in which the mechanical induction support gear of one of the compressive parts is dynamic, this gear being activated by an induction, said semi transmittive induction.

Claim 25

A machine according to claim 26 in which the rotary part is lead by a semi transmittive induction from center to center, the support and induction axles being both located upon a same center, this semi transmission being either accelerative or decelerative, in either the same or opposite direction.

Claim 26

A machine according to claim 1, 2, or 3 in which the gear ratios realize the material form and where the form of the geometric figure is obtained by means of a semi transmittive realization, this induction having as characteristic the fact that the mechanical induction support gear of one of the compressive parts is dynamic.

Claim 27

A machine according to claims 1, 2, or 3, in which the mechanical induction supporting the paddle part is:

a mono induction, an intermediate gear mechanic, a poly induction mechanic, an alternative poly induction mechanic, a hoop gear mechanic, a chained hoop gear mechanic, a double internal gear mechanic, a heel gear mechanic, a gear-like structure mechanic, a unitary gear mechanic, a central active gear mechanic, a stopped poly induction mechanic, a subtractive poly induction mechanic, these inductions being realized with either with central fixed support gear, with dynamic and central support gear, with peripheral support gear, these inductions being realized according to gear ratios established in function with the geometric figure or the realization sequence of its faces.

Claim 28

A machine according to claim 7 in which the mechanical induction supporting the cylindrical part is one of the following:

a mono induction, an intermediate gear mechanic, a poly induction mechanic, an alternative poly induction mechanic, a hoop gear mechanic, a chained hoop gear mechanic, a double internal gear mechanic, a heel gear mechanic, a gear-like structure mechanic, a unitary gear mechanic, a central active gear mechanic, a stopped poly induction mechanic, a subtractive poly induction mechanic, these inductions being realized with either with central fixed support gear, with dynamic and central support gear, with peripheral support gear, these inductions being realized according to gear ratios established in function with the geometric figure or the realization sequence of its faces.

Claim 29

A machine according to claims 1 or 2 in which the power exit shaft is either:

- the eccentric shaft supporting the compressive paddle part,
- the shaft supporting the cylindrical compressive part, or
- one of the semi transmission axles

Claim 30

A machine according to claim 31 in which the induction of the cylindrical paddle part is said to be descending, this induction being characterized by the rigid set-up upon the paddle part of a peripheral support gear, this gear indirectly or directly activating an induction gear, this induction gear being set up rigidly at the center of the cylindrical part of the machine or on an axle of the cylindrical part.

Claim 31

A machine according to claim 1, 2, or 3, used as : compressor engine, pump, propeller, turbine, mechanical part of a mechanical turbine, artificial heart., and in with the cycles are definite in relation to the Sequential and the Geometrical figures.

Claim 32

A machine according to claims 1 or 2 in which we confer to the paddle part an aerodynamic curve allowing the transportation of substances in the machine:

a) from the periphery towards the center
b) from the center towards the periphery
c) from one lateral face towards the other

Claim 33

A machine according to claims 1, 2, or 3 in which the valves and the spark plugs are installed on the rotary part or the paddle part.

Claim 34

A machine according to claim 1 or 2, in which the locations of the valves, spark plugs and other accessories are set up in function of its realization sequence or its geometry.

Claim 35

A machine according to claims 1, 2, or 3, in which the direction of the expansion is realized in a straight line, or in a curve in which the general tendency is perpendicular to the line of the piston surface during the explosion.

Animation explanation